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मानक

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Mazdoor Kisan Shakti Sangathan

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IS 12334 (1988): Tractor Mounted Bund Former [FAD 21: Farm Implements and Machinery]



“ज्ञान से एक नये भारत का निर्माण”

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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## Indian Standard

SPECIFICATION FOR  
TRACTOR MOUNTED BUND FORMER

**1. Scope** — This standard specifies the material, dimensions and other requirements for the tractor mounted bund former.

**2. Terminology**

**2.0** For the purpose of this standard, the following definitions shall apply ( *see also* Fig. 1 ).

**2.1 Blade** — The soil working component of the bund former.

**2.2 Bund Former** — An implement which gathers soil and forms a bund.

**2.3 Forming Boards** — The parts which gather the soil to form the bund.

**2.4 Frame** — A rigid structure on which the bund forming boards and the linkages are fitted.

**3. Material**

**3.1** The material for the manufacture of various components of bund former shall be as given in col 3 of Table 1. The material may conform to the Indian Standards given in col 4 of Table 1. The material for the components shall be declared by the manufacturer.

**TABLE 1 MATERIALS FOR CONSTRUCTION OF DIFFERENT COMPONENTS**

| SI No.<br>(1) | Name of Component<br>(2) | Materials<br>(3) | Ref. to Indian Standard<br>(4) |
|---------------|--------------------------|------------------|--------------------------------|
| i)            | Frame                    | Mild steel       | IS : 226-1975*                 |
| ii)           | Hitch assembly           | Mild steel       | IS : 226-1975*                 |
| iii)          | Forming boards           | Mild steel       | IS : 226-1975*                 |
| iv)           | Adjustment lever         | Mild steel       | IS : 226-1975*                 |
| v)            | Cutting blade            | Carbon steel     | IS : 1570 ( Part 2 )-1979†     |
| vi)           | Hitch pin                | Carbon steel     | IS : 1570 ( Part 2 )-1979†     |

\*Specification for structural steel ( standard quality ) ( *first revision* ).

†Schedules for wrought steels for general engineering purposes: Part 2 Carbon steels ( unalloyed steels ) ( *first revision* ).

**3.2** The shape of a typical tractor mounted bund former for illustrating various components as shown in Fig. 1.

**4. Hardness** — The hardness of the cutting blade edge shall be between 450 and 500 HB or  $50 \pm 3$  HRC up to a distance of 50 mm from the front of cutting edge when measured in accordance with IS : 1500-1983 'Method for Brinell hardness test for metallic materials ( *second revision* )' or IS : 1586-1968 'Methods for Rockwell hardness test ( B and C scales ) for steel ( *first revision* )', respectively.

**5. Nominal Size** — The nominal size of the bund former shall be determined by measuring the maximum horizontal distance between the two ends of the bund forming blades ( *see A* in Fig. 1 ).

**6. Constructional Requirements**

**6.1 Frame** — The frame shall be capable of sustaining a pull of 9.8 N/mm of nominal size of bund former without any permanent deflection or change in shape.

**6.2 Hitch** — The hitch dimensions shall conform to the requirements of three point linkage given in IS : 4468-1977 'Specification for dimensions for three-point linkage of agricultural wheeled tractors ( *first revision* )'.

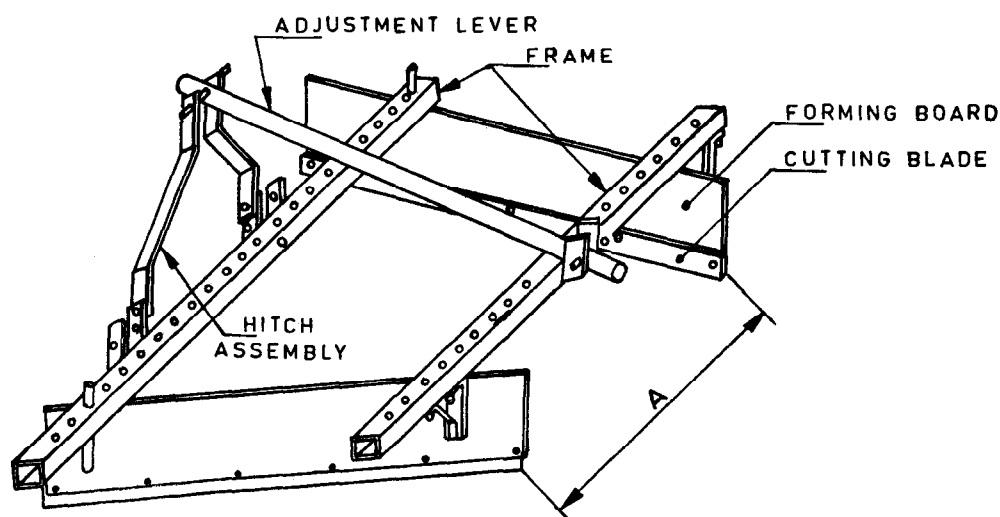


FIG. 1 NOMENCLATURE OF A TRACTOR MOUNTED BUND FORMER

**6.3 Cutting Blade Edge** — Shall be bevelled to a distance between 5 and 10 mm. The thickness of the edge shall be between 0.5 and 2 mm. The thickness of the cutting edge shall be uniform.

**6.4 Adjustment of Nominal Size and Height** — The frame shall have provisions to adjust the nominal size in the range of 250 to 1 000 mm and the height of bund in the range of 120 to 350 mm.

**6.5** All the components shall preferably be detachable.

**6.6** The fasteners coming in contact with soil shall have coarse thread. The head of the fasteners coming in contact with soil shall be flush with the working surface. Spring washer shall be provided with all the nut bolt fastenings.

**6.7** Cross bar with crank position for hitching point shall be provided.

**6.8** Operational and maintenance manuals and a set of tools including adjustable wrench and grease shall be provided.

## 7. Workmanship and Finish

**7.1** All components of the bund former shall be free from pits, burrs and other visual defects.

**7.2** The welding of the various parts shall be satisfactory in all respects ( see 7.1 of IS : 822-1970 'Code of procedure for inspection of welds' ).

**7.3** The exposed metallic parts of the bund former shall be free from rust and shall have a protective coating which will prevent surface deterioration in transit and storage.

**7.4** The surfaces of the bund forming blades shall be smooth without any indentations or hammer marks. The bolts on the inner surfaces of the forming blades shall be made smooth.

## 8. Marking and Packing

**8.1 Marking** — Each bund former shall be marked with the following:

- a) Manufacturer's name and trade-mark, if any;
- b) Year of manufacture;
- c) Nominal size; and
- d) Batch or code number.

**8.1.1** These particulars shall be stamped, embossed or engraved on a metallic plate and rigidly fitted on a non-wearing part of the bund former.

**8.1.2 Standard marking** — Details available with the Bureau of Indian Standards.

**8.2 Packing** — The bund formers shall be packed to ensure safety of the parts in transportation, as agreed to between the manufacturer and the purchaser.

## 9. Sampling and Criteria for Conformity

**9.1** Unless otherwise agreed to between the purchaser and the supplier, the method of sampling and criteria for conformity of the bund former shall be as given in 3 of IS : 7201-1974 'Method of sampling of agricultural machinery and tractors'.

## EXPLANATORY NOTE

Bund former is an implement used for forming bunds or ridges by gathering the soil. The bunds help in holding irrigation water in the field and thereby conserving moisture and preventing run-off. The bunds can also be used as soil conservation structures. Considering the increase in manufacture and use of tractor mounted bund former, this standard has been prepared.

IS : 3372-1965 'Specification for bund former' prescribes the requirements for the bund former drawn by animals.

The figure given in this standard is meant only for illustration of components. This should not be considered as suggestive of any standard design.

In the preparation of this standard, assistance has been obtained from Indian Grassland and Fodder Research Institute, Jhansi and Punjab Agricultural University, Ludhiana.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off values should be the same as that of the specified value in this standard.